



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicants: Aneziris et al.

Serial No.: 10/586,221

Title: MANUFACTURE OF ENVIRONMENTALLY FRIENDLY CARBON-BONDED REFRACORY PRODUCT IN THE COLD MIXING PROCESS

Filing Date: July 14, 2006

Art Unit: 1793

Examiner: Matthew E. Hoban

Confirmation: 2730 Attorney Docket No.: 0003036USU/2266

**DECLARATION UNDER 37 C.F.R. §1.132**

Dear Sir:

I, Winfried Boenigk, Ph.D., am providing this statement as a declaration in support of the above-referenced patent application, pursuant to 37 C.F.R. §1.132. I hereby declare and state as follows:

1. I received a Ph.D. degree in Chemistry from the University of Duesseldorf in 1984.
2. I am currently the Head of Research and Development of coal chemicals for the RUETGERS group.
3. From 1984 to present, I have held various positions in the coal tar business.
4. I am a named inventor on US 5,262,043 and US 5,283,045 issued U.S. patents and 10/586,221 and PCT/EP2009/065538 pending U.S. patent applications.

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5. I believe that my education and experience qualify me as one skilled in the art of chemistry, and in particular, coal tar products.
6. I am a co-inventor on U.S. Patent Application No. 10/586,221 ("the pending application"), which is directed to carbon-bonded refractory products.
7. In preparing this Declaration, I reviewed the pending application including the presently pending claims and the Office Action dated October 2, 2009 ("the Action"). I have also reviewed all of the references that were cited in the Action, especially U.S. Patent No. 4,115,133 ("Kuenkele") and U.S. Patent No. 5,262,043 ("Boenigk").
8. The non-final rejection of the pending application is based on obviousness. In making these rejections, the Office Action asserts that Kuenkele discloses the use of liquid anthracene oil.
9. However, I disagree. In Kuenkele, anthracene oil is used to wet the dry refractory materials. Anthracene oil is a distillation cut of coal tar and volatilizes when heated to a high temperature level. Anthracene oil is completely soluble in toluene and quinoline. Therefore, the  $\beta$ -resin yield of anthracene oil is 0%. Anthracene oil has no binding power and does not form a coke.
10. Examples 1 and 2 of Boenigk take place at temperatures well exceeding room temperature. For example, the distillation temperature in Example 1 was 300 degrees celsius, and the distillation temperature in Example 2 was 340 degrees Celsius. Anthracene oil added to hot liquid pitch is dissolved in the pitch, thus, reducing the pitch viscosity.
11. On the other hand, heretofore, anthracene oil at room temperature did not dissolve high molecular pitch structures ( $\beta$ -resins) within a period during batch mixing of refractory materials.

12. The significance of my invention is a method for manufacturing carbon-bonded refractory products using organic binder agents consisting of a powdery, graphitable coal-tar pitch with a graphitable binder agent that is liquid at room temperature.
13. The undersigned hereby declares that all statements made herewith of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application and any patent issuing thereon or any patent to which this verified statement is directed.

W. Boenigk  
Winfried Boenigk, Ph.D.

Jan 27, 2010